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Fig. 8. Same as Fig. 6 except the specimen from which the drawing was made was taken from a dwelling house at Arcola, Ill.

## PLATE III.

- Fig. 9. *Chelanops corticis* sp. nov. Right pedipalp from above,  $\times 26$ .  
Fig. 10. *Chelanops floridae* Balzan. Right pedipalp from above,  $\times 26$ .  
Fig. 11. *Chelanops pallidus* Banks. Right pedipalp from above,  $\times 40$ .  
Fig. 12. *Chelanops sanborni* (Hagen). Right pedipalp from above,  $\times 40$ .  
Fig. 13. *Obisium brunneum* Hagen. Right chelicera from above,  $\times 260$ .

## PLATE IV.

- Fig. 14. *Blothrus magnus* sp. nov. Dorsal view,  $\times 18$ .

## PLATE V.

- Fig. 15. *Chthonius longipalpus* Banks. Dorsal view of female,  $\times 22$ .

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## ADDITIONAL NEW SPECIES OF NORTH AMERICAN LEPIDOPTERA.

BY WM. BARNES, M.D., AND J. MCDUNNOUGH, PH.D.,

DECATUR, ILL.

### Family NOTODONTIDÆ.

#### *Schizura biedermani*, new species.

*Male*.—Head and thorax dark purplish-gray with decided reddish tinge on pro- and metathoracic tufts; posterior portion of patagia bordered with black; abdomen dorsally light yellow brown with darker tuft on first segment, beneath light purplish-gray; femora clothed with dark purple hairs. Primaries, ground color olivaceous brown, only apparent on lower portion of wing, costal half shaded with purplish, very dark at base of wing, much lighter, almost gray, towards apex; fine black basal dash, extending below cubital vein to t.a. line; subbasal line distinct, black, geminate, extending only to anal vein; t.a. line geminate, slightly lunulate, indistinct in costal portion, inwardly angled on anal vein; at end of cell a thin black bar, slightly concave outwardly, with a black dash extending from its center to t.p. line; indistinct curved blackish median shade, rarely extending completely across wing, half way between end of cell and t.p. line; t.p. line indistinct in costal portion, composed of a series of incurved light ochreous lunules, shaded with blackish towards base of wing, and followed outwardly by suffused reddish shading; apex light purplish-gray with black apical dash; series of more or less distinct submarginal black dashes, bordered outwardly with whitish; veins in outer portion of wing shaded with

black; terminal row of indistinct reddish dots at base of fringes; these latter checkered, ochreous and black. Secondaries iridescent white, slightly yellowish along inner margin; costal margin and small anal patch smoky brown; veins slightly marked with black near anal angle; fringes white.

Beneath, primaries, dark smoky, broadly white below apex along outer margin; costa white near apex with several black markings; secondaries as above; costal margin black with single light dot; dark anal patch confined to fringes. Expanse, 50 mm.

*Female*.—More suffused dark purplish-gray on primaries, markings as a rule less distinct than in male; secondaries smoky brown, lighter on disk, inner margin yellowish, with black lunule near anal angle; beneath, dark smoky brown, broadly white along inner margin of secondaries; apical portion of costa on primaries white, with black dashes; outer margin sprinkled with gray; fringes of secondaries whitish; traces of black anal patch. Expanse 59 mm.

*Habitat*.—Palmerlee, Cochise Co., Ariz., 9 ♂♂, 5 ♀♀, Types, Coll. Barnes.

We take pleasure in naming this species after Mr. C. Biederman, from whom we obtained the specimens. Considerable variation exists in the extent of purplish suffusion and the clearness of the markings, but on the whole the transverse bands are more clearly defined than in any other N. Am. *Schizura*, with the exception perhaps of *unicornis* A. & S.

*Larva*.—Head shiny brown, slightly marbled with darker; width at broadest portion 5 mm.; lobes united dorsally with scarcely perceptible suture. Body smooth, cylindrical, with slight hump on eighth abdominal segment; meso- and prothorax much contracted, forming a sort of neck; dorsal portion of body black with a faint white geminate dorsal stripe and a broken subdorsal one of similar color; lateral portion yellowish-white, tinged with orange dorsally and crossed by five longitudinal black stripes, the lowest of which is broken and confined to the anterior portion of each segment; a broad stigmatal band of orange-yellow, containing the pale ochreous stigmata; area below band yellowish with two black stripes; legs and prolegs brown, latter with black lateral markings; dorsal hump light brown (as far as could be ascertained); anal plate brown. Length approximately 32 mm.

Described from a full-grown dried specimen received along with the imagines.

#### Family LASIOCAMPIDÆ.

##### *Dendrolimus juvenalis*, new species.

*Male*.—Antennæ strongly pectinate, light brown; thorax deep black-brown, sprinkled with gray; abdomen reddish-brown, slightly banded with gray and

with black anal tuft, outer margin of both wings scalloped; primaries deep brown in basal half, strongly shaded with gray in outer portion; a broad chocolate-brown band broadest on costa crosses the wing; the inner margin of this is only indistinctly defined with gray, the band tending to become entirely amalgamated with basal portion of wing, which is similar in color; outer margin of band outcurved opposite cell, dentate in lower portion where it is shaded with gray; band contains a minute white dot in cell, situated on a suffused black dash extending from near base of wing outwards to subterminal area; a dentate gray line parallel to outer margin of band, followed by a series of broad, black, submarginal arrow-like marks of which that between veins  $M_3$  and  $Cu_1$  is more in the nature of a transverse dash and situated closer to outer margin; terminal area gray; fringes dark brown. Secondaries red-brown with broad, slightly darker outer border; fringes dark, tipped with white. Beneath, primaries pale brown at base, darker outwardly and along costa, veins marked in light; a whitish diffuse shade on costa near apex and traces of two transverse whitish bands; outer margin sprinkled with purple; secondaries pale brown with banding of primaries, basal portion of costa dark brown, extending inwards along first transverse band; outer margin suffused with purplish; fringes as above. Expanse, 60 mm.

*Female*.—Primaries pale reddish-brown, basal area and band slightly darker; all markings much paler and less contrasted than in ♂, tending to obsolescence; secondaries, still paler, with darker marginal band of ♂ scarcely traceable; beneath unicolorous light red-brown. Expanse, 73 mm.

*Habitat*.—Cochise Co., Ariz. 2 ♂♂, 2 ♀♀, Types, Coll. Barnes.

Very closely related to *Gloveria venerabilis* Edw. as figured by Druce (Biol. Cent. Am. Het., Pl. 85, fig. 7). Through the kindness of Dr. Dyar we have examined a ♂ agreeing well with Druce's figure; our specimens are much darker in ground color, the gray banding of primaries more irregularly dentate, especially the case with the inner of the two lines beyond the cell, and the submarginal line is considerably more broken and irregular towards the anal angle than in *venerabilis*. Edwards's description was made from a single ♀ and does not agree very well with the 2 ♀♀ before us from Arizona. When more material can be obtained it may prove but a local form of *venerabilis*, but for the present the differences noted warrant it being kept distinct. The specimens were received from Mr. Owen of Los Angeles, who bred them during a collecting trip in Arizona.

#### Family NOCTUIDÆ.

##### *Cerma nana*, new species.

*Male*.—Palpi but slightly upturned, black, tipped with orange; antennæ very faintly ciliate; front and thorax ochreous; abdomen gray; primaries

ochreous, somewhat irrorate with brown in median and subterminal areas; dark patch on costa at base; t.a. line dark brown, rather indistinct, arising from a dark spot on costa, irregularly dentate, outwardly oblique, bordered inwardly with orange, and preceded by some slight dark scaling; orbicular and reniform broadly outlined in orange with a dark center and outer margin; latter spot often indistinct with large triangular smoky spot directly above it on costa, and dark shading below extending to inner margin; t.p. line dark brown, finely dentate, indistinct in costal portion, slightly incurved on submedian fold, shaded outwardly with orange; costal margin beyond triangular spot smoky with several yellowish dots; subterminal area shaded with dark; faint broken black terminal line preceded by slight orange scaling; fringes dusky, lighter in outer half with minute ochreous basal dots opposite the veins. Secondaries smoky brown with indistinct discal spot and median line, fringes lighter, with ochreous basal dots. Beneath, primaries smoky brown with lighter shading in costal portion and several ochreous dots on costa near apex; fringes as above; secondaries light ochreous, heavily sprinkled with dark scaling, and with prominent discal lunule and median band; fringes pale ochreous. Expanse, 19 mm.

*Habitat*.—San Diego, Calif. 6 ♂♂. Type, Coll. Barnes.

The pale ground color, with dark costal patches, and orange shading to maculation should readily distinguish this species.

***Cerma oaklandiæ*, new species.**

*Male*.—Palpi upturned, whitish, shaded with black outwardly on second joint; antennæ ciliate; front smooth, light gray; vertex of head and thorax scaled with gray, black and olivaceous; abdomen gray; primaries gray, heavily and evenly irrorate with blackish and olivaceous scaling, with indistinct maculation and no contrasting portions of wing; a dark basal line in costal portion of wing; t.a. line dark, inwardly oblique to cubitus, sharply angled just below this vein, thence outwardly inclined to just before inner margin where it again forms a slight angle; area between it and basal line but very slightly lighter than remainder of wing; orbicular and reniform indistinct, whitish with darker centers, the former circular, the latter not well defined towards costa; beneath orbicular traces of a dark angular mark; t.p. line irregularly dentate, well curved around reniform, from thence to inner margin practically parallel to outer margin, bordered outwardly very slightly with white; subterminal area with a few dark shades below apex and a broken dark terminal line; fringes checkered, with dark median band; secondaries smoky, lighter towards base with prominent oval discal spot. Beneath smoky; primaries with t.p. line slightly defined in blackish and proceeding from a black spot on costa; fringes gray, checkered with black; secondaries lighter than above with dark discal dot and dentate median line; fringes unicolorous gray; black broken terminal line to both wings. Expanse, 23.5 mm.

*Habitat*.—Oakland, Calif. 2 ♂♂. Type, Coll. Barnes. Co-type, Coll. F. H. Wolley-Dod.

This species is very closely related to *C. fascia* Sm. of which we possess the co-type. Apart from its smaller size it may be distinguished by the more even coloration of primaries, the contrasting areas being practically lacking. The maculation is more indistinct than in *fascia*, and the secondaries more smoky, with an oval discal spot and not a lunule; the vertex of head is scaled as the thorax, whereas in *fascia* it is creamy white like the front.

***Cerma flavidior*, new species.**

*Male*.—Palpi upturned, shorter than in allied species, creamy, with second joint outwardly black; front and vertex of head ochreous; thorax largely scaled with orange, mixed with blackish; abdomen silky gray; primaries deep purple, heavily scaled with yellow along costa, and with areas between basal and t.a. line, and beyond t.p. line bright yellow; maculation much as in other *Cerma* species; t.a. line dentate, slightly outwardly oblique; orbicular circular, yellowish, with dark center and dark costal shade above it, reniform obscure; t.p. line dentate, sharply angled just below costa, well exerted beyond cell, strongly incurved below reniform; s.t. line represented by a brown costal shade before apex, continued faintly across yellow area of wing to anal angle, where it forms several more distinct brown dashes; prominent dark broken terminal line; fringes ochreous; checkered slightly with darker. Secondaries slightly smoky with faint discal spot and median line; fringes concolorous. Beneath ochreous, shaded with smoky brown; prominent discal dash and subterminal line on both wings; costa of primaries with dark markings near apex. Expanse, 27 mm.

*Habitat*.—Esmeralda Co., Nevada. 1 ♂. Type, Coll. Barnes.

The broad yellow sub-basal and terminal areas should serve to distinguish this species from *C. fascia* Sm. with which it is practically identical in maculation. We should have hesitated in regarding this as a good species if it were not for the palpi, which are much shorter than in *fascia*. In this species they extend well to vertex of head, whilst in *flavidior* they barely reach the middle of front. Hampson has used this feature to separate the two genera *Bryophila* and *Cerma*, actually placing *fascia* in the first mentioned genus along with *sarepta* Barnes, and leaving our other N. Am. species where they were. If the species should be separated at all on this point, an examination of the palpi has convinced us that *cuerva* Barnes, *galva* Stkr. and our new species *oaklandiae* should also be removed from their present genus and placed in *Bryophila*, whilst *sarepta* Barnes must be restored once more to *Cerma*. Not having had the chance to examine the type of the genus *Bryophila* we consider it safer to leave for the present all the species in the genus *Cerma*.